

1 CLAIMS

I claim:

1. A hollow, elongated, structural member comprising:
 - a plurality of elongated hollow pole sections secured together in an end-to-end relationship;
 - each of said hollow pole sections comprising a plurality of longitudinally extending peripheral sections joined together;
 - each of said peripheral sections being bent along at least one longitudinally extending break line to define a plurality of angled wall sections extending between longitudinally inwardly extending edge portions;
 - said edge portions of said peripheral sections being bolted together by bolt members to form a hollow pole section.
2. The structural member of claim 1 wherein said bolt members are accessible from only within the hollow pole section.
3. The structural member of claim 1 wherein each of said peripheral sections is generally C-shaped.
4. The structural member of claim 1 wherein said edge portions of adjacent peripheral sections define an externally presented general V-shape therebetween.
5. The structural member of claim 1 wherein each of said break lines is radiused.
6. The structural member of claim 1 wherein said pole sections are secured together by a plurality of splice plate assemblies.

1 7. The structural member of claim 1 wherein the structural member is a
wind turbine tower.

5 8. The structural member of claim 1 wherein said hollow pole sections have
a diameter sufficiently large enough to permit a person to be positioned therein.

10 9. The structural member of claim 1 wherein a plurality of braces are
provided within said hollow pole sections which interconnect at least some of said
edge portions.

15 10. A wind turbine tower, comprising:
a plurality of elongated hollow pole sections secured together in an end-to-end
relationship;
each of said hollow pole sections comprising a plurality of longitudinally extending
peripheral sections joined together;
each of said peripheral sections being bent along at least one longitudinally extending
break line to define a plurality of angled wall sections extending between
longitudinally inwardly extending edge portions;
said edge portions of said peripheral sections being bolted together by bolt members
to form a hollow pole section.

20 11. The wind turbine tower of claim 10 wherein said bolt members are
accessible from only within the hollow pole section.

25 12. The wind turbine tower of claim 10 wherein each of said peripheral
sections is generally C-shaped.

1 13. The wind turbine tower of claim 10 wherein said edge portions of adjacent peripheral sections define a general V-shape therebetween.

5 14. The wind turbine tower of claim 10 wherein each of said break lines is radiused.

10 15. The wind turbine tower of claim 10 wherein said pole sections are secured together by a plurality of splice plate assemblies.

15 16. The wind turbine tower of claim 10 wherein said hollow pole sections have a diameter sufficiently large enough to permit a person to be positioned therein.

20 17. The wind turbine tower of claim 10 wherein a plurality of braces are provided within said hollow pole sections which interconnect at least some of said edge portions.

25 18. The wind turbine tower of claim 10 wherein three peripheral sections are joined together.

15 19. The structural member of claim 7 wherein three peripheral sections are joined together.

20 20. The wind turbine tower of claim 10 wherein said edge portions extend inwardly towards the center of said hollow pole sections.

25 21. The structural member of claim 1 wherein said edge portions extend inwardly towards the center of said hollow pole sections.

25 22. The wind turbine tower of claim 10 wherein each of said peripheral sections has first, second, third, fourth, fifth and sixth angled wall sections extending between said edge portions.

1 23. The wind turbine tower of claim 22 wherein said first and sixth angled
wall sections have the same width, said second and fifth angled wall sections have the
same width, and said third and fourth angled wall sections have the same width.

5 24. The wind turbine tower of claim 23 wherein the widths of said first and
sixth angled wall sections are less than the widths of said second and fifth angled
walls sections, and the widths of said second and fifth angled wall sections are less
than the widths of said third and fourth angled wall sections.

10 25. The structural member of claim 1 wherein each of said peripheral
sections has first, second, third, fourth, fifth and sixth angled wall sections extending
between said edge portions.

15 26. The structural member of claim 25 wherein said first and sixth angled
wall sections have the same width, said second and fifth angled wall sections have the
same width, said third and fourth angled wall sections have the same width.

20 27. The structural member of claim 26 wherein the widths of said first and
sixth angled wall sections are less than the widths of said second and fifth angled
walls sections, and the widths of said second and fifth angled wall sections are less
than the widths of said third and fourth angled wall sections.